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The

SPRUCE BUDWORM SITUATION

ON THE

FORESTS OF SOUTHERN IDAHO

1953 - 54

U. S. FOREST SERVICE REGION FOUR

THE SPRUCE BUDWORM
SITUATION ON THE FORESTS OF SOUTHERN IDAHO
REGION FOUR, U. S. FOREST SERVICE
1953 - 1954

THE PROBLEM

An infestation of the spruce budworm, a defoliating insect, has increased to damaging proportions on some 350,000 acres of spruce and fir timber land on the Boise, Payette, and Salmon National Forests in South Idaho.

THE INSECT

The adult insect is a small moth, mottled buff to greyish in color. It lays its eggs in late July or early August, and these hatch in about ten days. The young larvae spin cocoons and hibernate until spring. They emerge late in May or early in June and feed for a period of five to six weeks. They reach maturity early in July, pupate and emerge as adults to lay eggs and start the cycle over.

HOSTS

The budworm larvae feed on the needles of all species of fir and spruce trees, normally on the new growth. However, some of the older needles are also eaten during periods of heavy populations, resulting in total defoliation of the trees after three or four years.

HISTORY

There are many records of spruce budworm epidemics in the United States and Canada in which entire stands of trees have been destroyed. In this Southwest Idaho

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area the budworm has been increasing in abundance for five or six years or more. The first widespread severe defoliation occurred in 1952 but lessened somewhat in 1953 because of heavy mortality to the insects as a result of a heavy rain and hail storm. Favorable weather in 1953 brought a large flight of moths and it is expected that defoliation will be heavy in 1954 unless control measures are taken.

PRESENT STATUS

About 350,000 acres of severe defoliation with top killing and some tree mortality, on the Boise, Payette and Salmon National Forests. 150,000 acres of this total overlaps the pine butterfly infestation, leaving approximately 200,000 acres outside of that area. There is a light to moderate infestation over a much larger area, in fact, the budworm can be found in nearly all fir stands in South Idaho. To date the total kill of trees has been slight, but with top killing and weakening of trees over this large area, damage in prospect is tremendous.

DAMAGE IN PROSPECT

Immediately threatened are some 3.6 billion feet of timber worth conservatively over $10,000,000. In addition, watershed and recreational values will be impaired and fire hazard will be greatly increased. Loss of revenue to industry through reduction of

allowable cut will be serious, for these stands are a sizeable part of the reserves for future cutting on these forests.

NEEDED

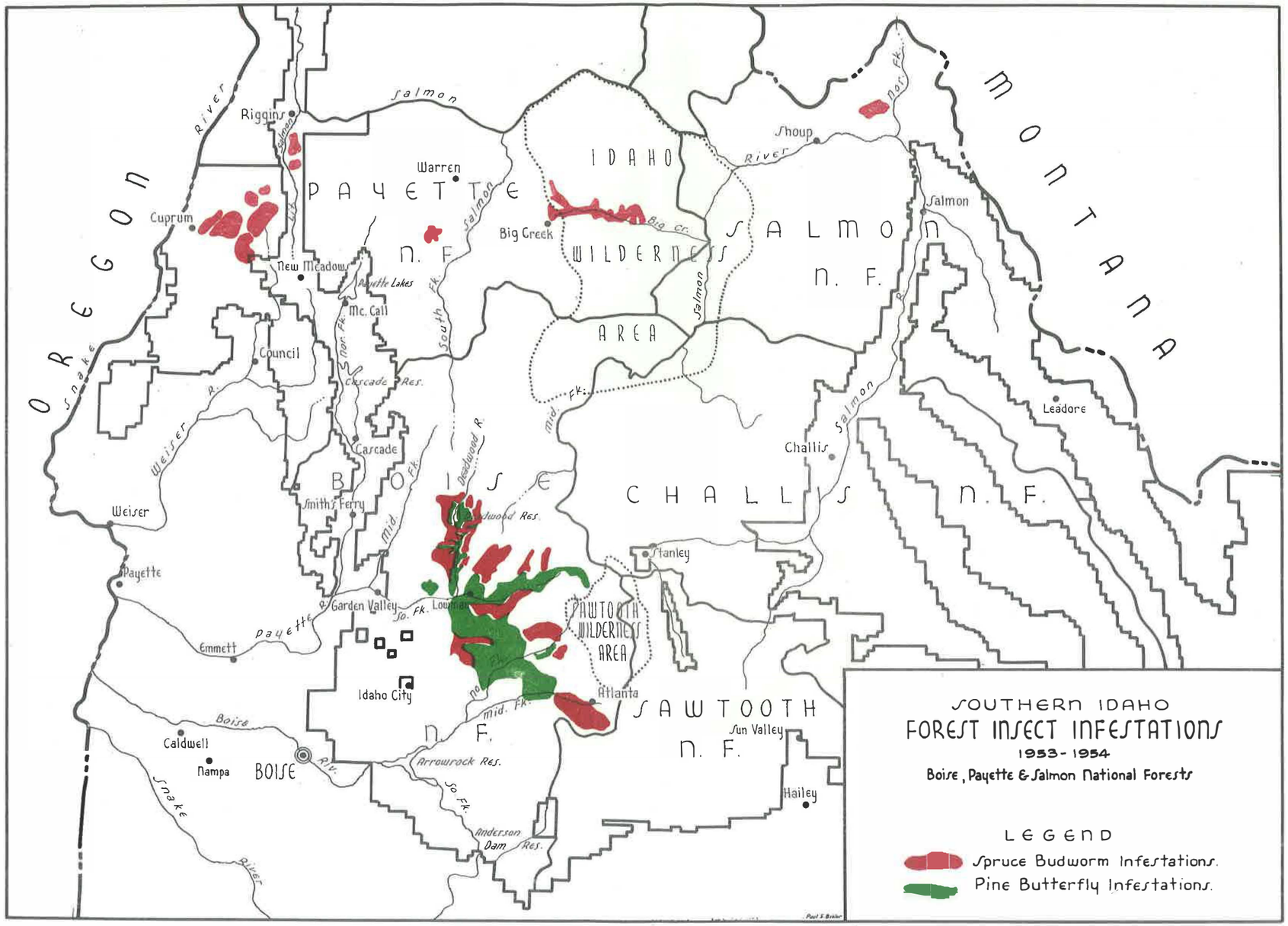
A control project in conjunction with that proposed for the pine butterfly outbreak which overlaps the budworm area. Spraying of additional 200,000 acres needed. Control by logging is impossible with this type of infestation. Projects in Oregon, Washington and Northern Idaho have demonstrated feasibility of control by aerial spraying of DDT solution. Estimated cost of control $1.72 per acre - total needs $340,000.

WHEN NEEDED

$294,000 needed early in 1954 to assure delivery of insecticide, contracting of flying etc., well in advance of June 15. Spraying can be done effectively from about June 15 to July 10. $46,000 needed after July 1, 1954 to complete project for 1954 season. Needs for subsequent years cannot be determined until the results of the 1954 control work and the general trend of the insect outbreak at that time are known.

Defoliation of young fir tree by spruce budworm.

Partly defoliated twig showing the mature spruce budworm larva in the action of browsing on remaining needles.


OREGON
MONTANA
IDAHO
PAYETTE N. F.
SALMON N. F.
BOISE N. F.
CHALLIS N. F.
SAWTOOTH N. F.
SAWTOOTH WILDERNESS AREA
SALMON WILDERNESS AREA
Riggins
Warren
Cuprum
Big Creek
New Meadow
Mc. Call
Council
Cascade
Cascade Res.
Weiser
Smith's Ferry
Payette
Garden Valley
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Nampa
BOISE
Arrowrock Res.
Anderson Dam Res.
Hailey
Sun Valley
Atlanta
Stanley
Challis
Salmon
Shoup
Leadore
Lowman
Big Cr.
Mid. Fk.
South Fk.
Snake River
Payette River
Boise R.
Weiser R.
Salmon River
Deadwood R.
Deadwood Res.
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